



# Indiana Crop & Weather Report

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Released: Monday, 3PM

August 28, 2000

Vol. 50, #21

West Lafayette, IN 47907

## CROP REPORT FOR WEEK ENDING AUGUST 27

Warm weather and sunshine last week continued to help corn and soybeans mature. Corn stalks and soybean plants in many fields around the state are turning color, according to the Indiana Agricultural Statistics Service. Major farm activities during the week included baling hay, mowing roads and pastures, repairing equipment, selling grain, and preparing equipment for fall harvest.

### CORN

Corn **condition** is rated 79 percent good to excellent compared with 80 percent last week and 34 percent last year at this time. Ninety-eight percent of the corn acreage has reached the **dough** stage compared with 99 percent last year and 84 percent for the average. Sixty-eight percent of the corn acreage is in the **dent** stage compared with 70 percent a year ago and 39 percent for the 5-year average. By region, 58 percent of the corn acreage is in the dent stage in the north, 77 percent in the central region and 72 percent in the south. Nine percent of the corn acreage is **mature**.

### SOYBEANS

Soybean **condition** is rated 68 percent good to excellent compared with 69 percent last week and 31 percent last year. Ninety-eight percent of the soybean acreage is **setting pods**, on par with a year earlier, but ahead of the 90 percent for the average. Ten percent of the soybean acreage is **shedding leaves**, same as a year ago, but ahead of the 4 percent for the average.

### OTHER CROPS

**Pasture condition** is rated 15 percent excellent, 51 percent good, 28 percent fair and 6 percent poor. Third cutting of **alfalfa hay** is 85 percent complete compared with 93 percent a year ago. **Tobacco** harvest is 30 percent complete compared with 39 percent last year and 21 percent for the 5-year average.

### DAYS SUITABLE and SOIL MOISTURE

For the week ending Friday, 5.2 days were rated **suitable for fieldwork**. **Topsoil moisture** was rated 4 percent very short, 15 percent short, 69 percent adequate and 12 percent surplus. **Subsoil moisture** was rated 8 percent very short, 21 percent short, 63 percent adequate and 8 percent surplus.

### CROP PROGRESS

Crop	This Week	Last Week	Last Year	5-Year Avg
Percent				
Corn in Dough	98	93	99	84
Corn Dent	68	47	70	39
Soybeans Podding	98	94	98	90
Soybeans Shedding Lv	10	5	10	4
Alfalfa, Third Cutting	85	75	93	NA

### CROP CONDITION

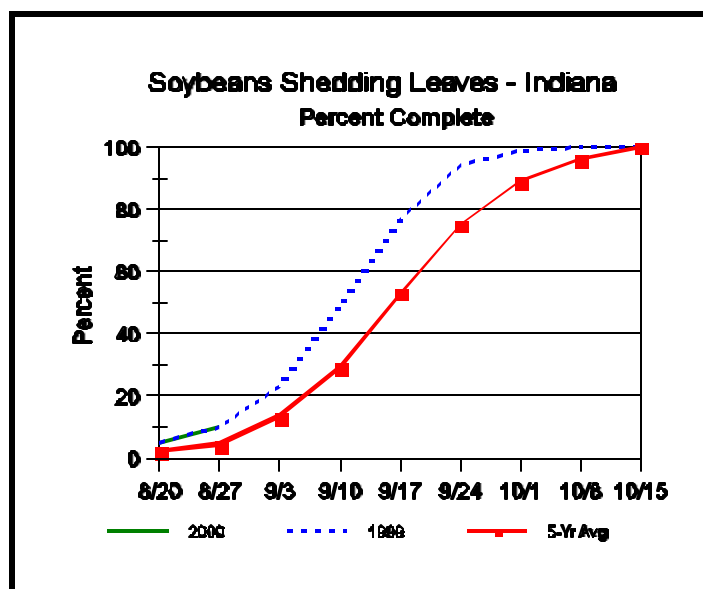
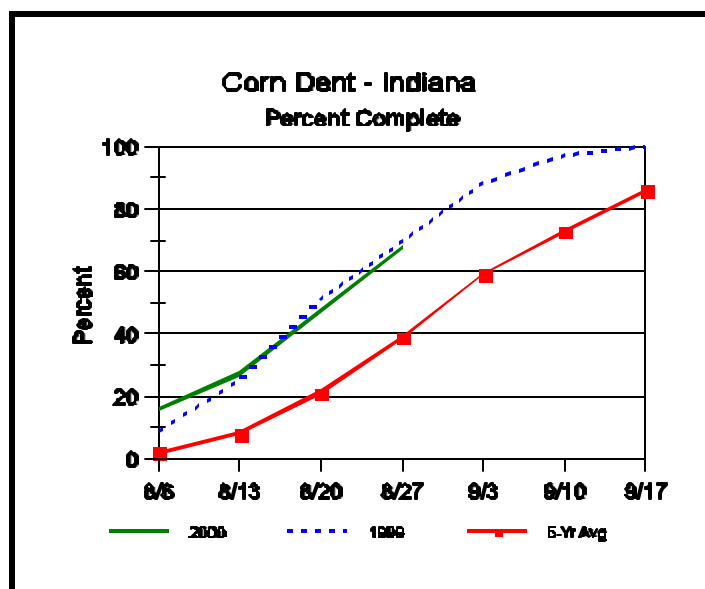
Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Corn	1	3	17	52	27
Soybeans	2	6	24	52	16
Pasture	0	6	28	51	15

### SOIL MOISTURE

	This Week	Last Week	Last Year
Percent			
<b>Topsoil</b>			
Very Short	4	2	28
Short	15	16	43
Adequate	69	71	29
Surplus	12	11	0
<b>Subsoil</b>			
Very Short	8	5	35
Short	21	23	47
Adequate	63	66	18
Surplus	8	6	0

--Ralph W. Gann, State Statistician  
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# Crop Progress



## Post-Maturity Grain Drydown in the Field

- Early maturation of corn grain means greater drying rates
- Indiana corn harvest likely to begin earlier than usual

Given the percentage of Indiana's corn crop that is rapidly approaching physiological maturity and the early time frame in which it is occurring, there is much talk down at the Chat 'n Chew Café about the opportunities for reducing or eliminating grain drying costs this fall. Indeed, early maturation of the corn crop typically results in faster drydown of grain simply because it is occurring in a time frame that is relatively warmer than usual.

Grain moisture content continually decreases as the kernel develops. Loss of grain moisture occurs partially through the plant (cob and ear shank), partially through the husk leaves and partially through the exposed end of the ear.

Hybrid variability for the rate of grain moisture loss during post-maturity drydown and the resulting grain moisture content at harvest are of great interest to grower and seed industry alike. Growers desire hybrids with superior yielding ability (maximum gross income) that also dry very quickly in the fall (minimum drying or grain shrinkage costs). For an excellent discussion on grain weight shrinkage, see Hicks and Cloud, 1991. *Calculating Grain Weight Shrinkage in Corn Due to Mechanical Drying*. NCH-61. Purdue Univ. Cooperative Extension Service, W. Lafayette, IN 47907 (on the Web at <<http://www.agcom.purdue.edu/AgCom/Pubs/NCH/NCH-61.html>>).

The seed industry also uses grain moisture loss data to rate hybrids for relative maturity. Many seed companies assign relative hybrid maturity ratings on the basis of relative harvest moisture differences among a group of hybrids. Two hybrids that differ in one 'day' of relative maturity will typically vary by about 0.5 % grain moisture if planted and harvested on the same days. Relative hybrid maturity ratings are most consistent within, not among, seed companies.

Certain hybrid characteristics interact to influence grain moisture loss rates. The relative importance of each trait varies throughout the duration of the field drydown process.

- **Husk Leaf Number.** The fewer the number of husk leaves, the more rapid the grain moisture loss.
- **Husk Leaf Thickness.** The thinner the husk leaves, the more rapid the grain moisture loss.
- **Husk Leaf Senescence.** The sooner the husk leaves senesce (die), the more rapid the grain moisture loss.
- **Husk Coverage of the Ear.** The less the husk covers the tip of the ear, the more rapid the grain moisture loss.
- **Husk Tightness.** The looser the husk covers the ear, the more rapid the grain moisture loss.
- **Ear Declination.** The sooner the ears drop from an upright position to a downward position, the more rapid the grain moisture loss.
- **Cob Diameter.** The narrower the cob diameter, the more rapid the grain moisture loss.
- **Kernel Pericarp Thickness.** The thinner the pericarp, the more rapid the grain moisture loss.

Grain moisture loss in the field occurs at a nearly linear rate within a range of grain moisture content beginning at

(Continued on Page 4)

# Weather Data

Week ending Sunday August 27, 2000

Station	Past Week Weather Summary Data							Accumulation				
	Air				Precip.		Avg	April 1, 2000 thru				
	Temperature				Total		4 in	August 27, 2000				
	Hi	Lo	Avg	DFN	Total	Days	Soil	Precipitation		GDD Base 50°F		
							Temp	Total	DFN	Days	Total	DFN
<b>Northwest (1)</b>												
Valparaiso_Ag	85	53	70	+2	0.50	4		22.03	+2.70	67	2201	-78
Wanatah	85	48	68	-1	0.08	2	77	21.46	+2.63	58	2124	-57
Wheatfield	88	51	70	+2	0.67	1		21.11	+2.74	47	2288	+54
Winamac	85	51	70	+2	0.29	1	75	18.77	+0.13	52	2237	-66
<b>North Central (2)</b>												
Logansport	85	52	71	+1	0.57	3		19.99	+2.16	61	2317	-49
Plymouth	85	51	69	-2	0.95	3		22.30	+3.46	63	2134	-279
South_Bend	84	51	70	+1	0.10	3		18.87	+0.71	63	2184	-84
Young_America	87	48	70	+0	0.65	3		17.68	-0.15	56	2364	-2
<b>Northeast (3)</b>												
Bluffton	84	50	69	-2	0.80	2	68	20.35	+2.47	63	2320	-107
Fort_Wayne	85	48	70	-1	1.67	2		21.27	+4.45	56	2301	-68
<b>West Central (4)</b>												
Crawfordsville	85	50	70	-2	0.55	3	74	19.16	-0.75	53	2245	-291
Perrysville	85	50	71	+1	0.86	3	76	17.82	-2.24	57	2424	-62
Terre_Haute_Ag	89	60	75	+4	1.30	4	75	27.16	+7.22	60	2811	+162
W_Lafayette_6NW	86	50	71	+2	0.56	4	74	17.82	-0.83	60	2392	+36
<b>Central (5)</b>												
Castleton	83	52	70	-2	0.83	3		25.29	+5.77	73	2459	-154
Greenfield	83	53	70	-2	0.84	4		24.43	+3.68	65	2477	-42
Greensburg	82	53	71	+0	0.43	3		24.64	+4.41	69	2555	+100
Indianapolis_AP	83	57	72	+0	0.10	2		21.01	+2.15	55	2619	-9
Indianapolis_SE	81	53	70	-3	0.23	2		23.35	+3.83	57	2431	-182
Tipton_Ag	85	48	68	-2	1.80	3	72	18.80	-0.14	58	2176	-114
<b>East Central (6)</b>												
Farmland	85	48	68	-2	1.74	3	68	24.49	+6.12	63	2274	+39
New_Castle	81	49	67	-3	0.53	3		22.54	+2.52	58	2019	-270
<b>Southwest (7)</b>												
Dubois_Ag	85	56	73	+1	3.19	3	77	24.88	+3.15	65	2795	+129
Evansville	87	60	74	-1	3.43	3		20.56	+1.59	60	2997	-52
Freelandville	85	57	72	-2	2.83	4		26.50	+6.68	53	2725	-10
Shoals	85	56	71	-2	2.51	3		27.84	+6.33	64	2600	-46
Vincennes_5NE	86	58	73	+0	5.17	3	73	28.82	+9.12	59	2743	+8
<b>South Central (8)</b>												
Bloomington	85	53	71	-3	0.37	3		21.87	+1.79	53	2492	-193
Tell_City	85	62	75	-1	2.45	3		22.93	+1.18	50	2937	+18
<b>Southeast (9)</b>												
Scottsburg	83	54	72	-2	1.01	3		28.91	+8.48	55	2757	+36

DFN = Departure From Normal (Using 1961-90 Normals Period).

GDD = Growing Degree Days.

Precipitation (rain or melted snow/ice) in inches.

Precipitation Days = Days with precipitation of 0.01 inch or more.

Air Temperatures in Degrees Fahrenheit.

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## Post-maturity Grain Drydown in the Field (Continued)

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about 40 percent and ending at 15 to 20 percent, then tapers off to little or no additional moisture loss after that.

As you might expect, the exact rates of grain moisture loss in the field are closely related to air temperature during the dry down period. The warmer the drydown period, the faster the grain will dry. In fact, there is a close relationship between the average rates of grain moisture loss per day and the average daily heat unit accumulation during grain drydown.

Bear in mind that grain moisture loss for any particular day may be quite high or low depending on the exact temperature, humidity, sunshine, or rain conditions that day. It is not unheard of for grain moisture to decline more than one percentage point per day for a period of days when conditions are warm, sunny and dry. By the same token, there may be zero drydown on cool, rainy days. Since heat unit accumulations are closely related to calendar date, there is also a close relationship

between the average rates of grain moisture loss per day during the drydown period and the date when the grain nears physiological maturity (approximately 30 % moisture content). Average daily drydown rates will range from about 0.8 percentage point per day for grain that nears maturity in late August to about 0.4 percentage point per day for grain that nears maturity in mid to late September.

Given the opportunity for early maturation of corn in Indiana in 2000, it is quite likely that grain drydown rates will be favorably high. Be prepared for an early start to grain harvest.

*Source: Bob Nielsen, Dept. of Agronomy, Purdue University. Web Site: <http://www.agry.purdue.edu/ext/corn/cafe/index.html> , Purdue Pest & Crop August 24 Issue. This article contains some additional information & graphs. The additional graphs can be viewed at the above mentioned website.*

The INDIANA CROP WEATHER REPORT (USPS 675-770), (ISSN 0442-817X) is issued weekly April through November by the Indiana Agricultural Statistics Service, Purdue University, 1148 AgAd Bldg, Rm 223, West Lafayette IN 47907-1148. Second Class postage paid at Lafayette IN. For information on subscribing, send request to above address. POSTMASTER: Send address change to the Indiana Agricultural Statistics Service, Purdue University, 1148 AgAd Bldg, Rm 223, West Lafayette IN 47907-1148.

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